

## ABSTRACT

While a ball 14 is inserted into a hole WA of a workpiece W and is moved in the longitudinal direction of the hole WA while automatically centripetally moved, a change of back pressure of a gas injected into the hole WA is detected by a converter 30, and at the same time reflected light from a reflection member 18 provided on the ball 14 is received by a light receiving unit 22 and a change of peak position A of an amount of the received light is calculated, so as to calculate an inner diameter, straightness, and cylindricity of the hole WA, thus providing an inexpensive noncontact measuring apparatus 10 which measures the inner diameter, the straightness, and the cylindricity of the hole WA.